## **CLAIMS**

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- 1. A method of measuring a degree of dissimilarity between component eye diagrams in a collection thereof, the method comprising the steps of:
  - (a) selecting a reference feature on each component eye diagram in the collection;
  - (b) forming a composite eye diagram from the component eye diagrams in the collection, the reference feature of each component eye diagram in the collection being in forced alignment within the composite eye diagram; and
  - (c) maintaining a data structure describing offsets needed to align the reference features of the component eye diagrams in the collection and that form the composite eye diagram.
- A method as in claim 1 wherein at least one of the eye diagrams in the collection is itself a
  former composite eye diagram that has subsequently been construed as an individual component eye diagram.
  - 3. A method as in claim 1 further comprising the step of generating from the data structure a report of offset data used to force the alignment of step (b).
  - 4. A method as in claim 1 wherein the reference feature for a component eye diagram in the collection is a manually selected location of at least one of time and voltage.
    - 5. A method as in claim 1 wherein the reference feature for a component eye diagram in the collection is an automatically selected transition point.

- 6. A method as in claim 1 wherein the reference feature for a component eye diagram in the collection is an automatically selected point within the eye opening.
- 7. A method as in claim 1 wherein the reference feature of a selected component eye diagram in the collection is taken as an alignment reference to which all other component eye diagrams in the collection are force aligned during step (b).
- 8. A method as in claim 7 wherein in response to clicking on a selected displayed icon the selected component eye diagram is automatically chosen to be the next one in a sequence of component eye diagrams listed in a menu thereof.
- 9. A method as in claim 1 wherein an arithmetic combination in at least one of time and voltage of all the reference features for component eye diagrams in the collection is taken an alignment reference to which all eye diagrams in the collection are force aligned during step (b).